

REMARKS

Claims 1 through 16 and 18 through 21 are in the application and are presented for consideration. By this Amendment, changes have been made to many of the claims to address formal issues. Further, each of independent claims 1, 18 and 20 have been amended to highlight important aspects of the relationship between the features of the invention. In particular, the connection device having a rotational axis which is coaxial with the rotational axis of the welding torch, the welding power cable being connected to the stator in a non-rotatable manner and the stator being led through the connection device (connection flange) of the robot arm are claimed. The cooperation of features, including the features noted above, define subject matter which is significantly different from features taught by the prior art as a whole.

The drawings have been objected to under 37 CFR 1.83(a) because they fail to show where exactly a stator is by using a reference number, not relative to other elements as described in the specification.

Applicant notes that all features that are claimed have been clearly shown. Accordingly, Applicant respectfully traverses the objection. Nevertheless, Applicant has submitted a replacement sheet of drawings in which the stator is indicated via a reference numeral. It is requested that the replacement sheet of drawings be approved.

Claims 1-16 and 18-21 have been rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

Applicant has now made changes to the claims paying close attention to the comments in the office action. Applicant wishes to thank the Examiner for the careful reading of the claims and for the helpful comments. With regard to the objection of claims 7 and 8, Applicant notes that claim 7 recites “a stator to receiving device contact means”, namely a contact structure going from the stator to the receiving device. As such, the noted issues with regard to this language do not present any issues as to indefiniteness.

It is Applicant’s position that the claims as now presented are clear, definite and fully conform with the requirements of the statute. It is believed that the rejection under 35 U.S.C. 112, second paragraph has now been overcome.

Claims 1 and 18-20 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Haczynski et al. (US Pat No. 5,866,874) in view of Tsutsumi (EP 1358973 A1) and further in view of Suita et al. (US 5990442).

The prior art as a whole fails to suggest the important relationship among parts which is clearly set forth and claimed in the claims now presented. The relationship between the various parts according to the invention provides significant advantages. The relationship addresses problems which the prior art does not fully consider. Further, the important relationship between various features is not obvious based on the various different teachings of the various prior art references.

None of the Haczynski et al., Tsutsumi (EP 1358973 A1) and Suita et al. references disclose a rotatable connection flange of the robot through which the welding power or any other supply material can be led through the connection flange. Haczynski’s device is not

arranged coaxial with respect to the flange of the robot. Tsutsumi and Suita teach the concept of connecting the power cable laterally at their respective welding device. This presents teachings which will result in the problems addressed by the present invention. Even with any combination of the teachings of the cited references, the features of the welding torch device of the welding robot according to the invention are not realized. The combination of features according to the invention, including a rotatable connection flange of the robot through which the welding power or any other supply material can be led through the connection flange, with the non-rotatable stator, offers the possibility and advantage that the welding power cable and the supply material cable are not twisted as a result of rotational movement of the connection flange of the robot, even if it is an endless rotation. The prior art as a whole does not provide teachings which suggest this result and suggest the combination of features as claimed. Even if it is speculated that the person of ordinary skill the art might combine various features from the different references, the teachings as a whole still do not provide teachings of the features claimed. The rejection does not establish a *prima facie* case of obviousness.

It is further Applicant's position that the person skilled in the art would not combine selected features of Haczynski et al. with Tsutsumi et al. Further, there is no support for selecting features of Suita et al. in order to obtain the present invention as proposed by in the rejection. The references must have meaningful teachings to support the position that it would be desirable to provide the combination as claimed. The inquiry into patentability must be directed toward the subject matter as a whole and not elements of the combination and their individual novelty. Obviousness cannot be established by selecting individual features of

various references in an attempt to fashion applicants claimed combination. A rejection cannot be based on upon a hypothetical modification of the references in the absence of a teaching reference indicating the obviousness of the combination. Obviousness cannot be established by extracting a certain component from Tsutsumi and adding it to Haczynski's device. The rejection does not support the obviousness of the claimed subject matter, by extracting certain components and abstracting them to certain functions and particularly reducing those components to only those functions which are helpful for the rejection. Further, the rejection improperly disregards features of the extracted components wherein some of the disregarded features essentially prevent the hypothetical device of the rejection from being a reality. The rejection is based upon a hypothetical modification wherein individual aspects are selected to meet Applicants claims with this being a hindsight evaluation of Applicants claims.

It is further Applicant's position that the deficiencies of the teachings of Haczynski et al. and Tsutsumi, with regard to establishing the obviousness of the claimed invention, are not remedied by the teachings of Suita et al. Suita et al. describes a spot-welding gun and not a welding torch device for electric arc welding or MIG or MAG welding. This is quite significant with regard to the problem Applicant is solving and also the obviousness of combining various features as claimed. Spot-welding and the welding methods to which the present device are restricted are completely different and use completely different devices. Particularly in connection with a spot-welding gun it is not necessary to solve the problem of a lead-trough for supply material required for the arc welding/ MIG/ MAG process. A person skilled in the art does therefore not expect to find in the field of spot-welding any solution for

this technical problem. Suita et al. does not recognize the problem which Applicant's claimed invention solves. The teachings of Suita et al. are not useful with regard to solving the problem.

Suita et al. is concerned with providing another solution as the Examiner states in the Office Action. Suita et al. describes a spot-welding gun, which is provided with what is referenced as a stator and a rotor. The so-called rotor 17 surrounds the so-called stator 16 only in the area of a rotary-type actuator 13. Behind this area the rotor 17 and the stator 16 are provided with extending portions 19, 21, which are provided with an identical radial distance to the common axis 15. This aspect makes it questionable to denote the stator as an inner stator and the rotor as an outer rotor. As with Tsutsumi, Suita et al. also teaches that the connector 27 for feeding electric power to the spot-welding gun is arranged laterally at a connector 27 of the stator of the spot-welding gun (Suita et al. column 5, line 53-62, Fig. 2). These technical teachings result in problems which Applicant's invention addresses. Further, Suita et al. describes in column 4, line 17-31, that the stator 16 is coupled to the wrist of the robot 12 and is rotated about the axis 15 by the robot. According to column 4, line 42-46, the rotor is driven by supplying electric power to the coil portion 18 of motor 13. Considering the technical field of Suita et al, namely the field of spot-welding, it is comprehensible that both, namely the so-called rotor 17 and so-called stator 16 are driven for executing rotational movements. The person ordinary skill in the spot welding art would appreciate that in spot-welding methods it is essential that the workpiece comes into mechanical contact with both welding tips of the spot-welding gun.

Suita et al. teaches exactly the opposite to the technical teaching of subject matter of the claims of the present application. According to claim 1 the rotor of the present invention is provided with a receiving device and a fixing device for attaching the rotor to the connection device of robot. Consequently the rotor is rotationally driven by means of the rotational movement of the wrist and the fixing device of the robot. Suita et al teaches that the stator is rotated by the robot.

Further, in the present invention the stator has no mechanical connection to the robot connection part of the robot and is only connected to the electric welding cable. The stator of the invention is rotationally fixed arranged in relation to the robot arm, the stator is therefore also not provided with or connected to any actuator. As a result, the electric power/supply cable executes no rotational movement in case that the connecting flange of the robot rotates. Contrary to that the so-called stator of Suita et al. which is not a stator within the meaning of the word “stator”, is connected to the wrist of the robot and driven by the wrist in order to execute rotational movements. Contrary to the meaning of the “stator”, this part of Suita’s spot-welding gun is not stationary, it is rotationally fixed to the wrist of the robot and follows, together with the electric power cable, each rotational movement.

The only commonality between Suita et al. and the present invention are the expressions “rotor” and “stator.” All other structural technical features are different between Suita’s rotor/stator and the rotor/stator of the present invention. Particularly Suita does not disclose an inner stator, which is according to the description of the claims of the present application and according to the meaning of the expression stator actually a stator and therefore

nonrotatable. Therefore even with a selective combination of features from Haczynski Tsutsumi and Suita it is not possible to provide the combination of features as claimed. The teachings of the prior art do not present information which leads to the combination of features as claimed in an obvious manner.

The rejection is based on the position that the present invention would have been obvious in light of Haczynski because among other things Haczynski discloses a rotor and a stator. Although Haczynski shows a certain rotor and a certain stator there is no support for the position that it would be obvious to modify Haczynski's rotor and stator by replacing certain features – and just and only those features which are not a part of the claimed combination – with the rotor and stator of Tsutsumi. Such a selection of features is based only on Applicant's disclosure. Further, this is still a selection of a stator and rotor which is different from the stator and rotor according to the invention. The rejection then takes the untenable position that it would be further obvious to not accept the resulting stator/rotor and to further modify these parts of the device. Again the rejection looks to Suita et al. for only a small certain part of the technical teachings - and just and only those features which fit to the present invention. This is bringing in of selected features the third reference, after selecting features of a second reference, even though Suita et al. concerns another technical field with respect to the present invention and in practice it is simply impossible combine features from these two technical fields. In this case, the statement of the rejection, where it is necessary to modify the resulting stator and rotor again (which has already been modified) by means of using only certain properties of a third citation and not adding the stator/rotor as shown by

Suita et al as a whole, demonstrates the non-obviousness of the claimed combination. A person of ordinary skill in the art would not be able to achieve the claimed combination even with the hindsight approach of selecting individual features from the prior art references with knowledge of Applicant's invention. All of the references disclose structures that include what is referenced as a stator and a rotor. However, the rejection is based on an extraction of only certain properties of features without regarding the respective complete technical teachings of each reference with respect to these components. Further, hundreds of other combinations of features of the cited references are possible. However, the rejection is silent with respect to the reasons as to why a person skilled in the art should have combined the teachings of the three references only in the stated manner.

As the prior art does not teach the combination of features claimed and does not teach the features arranged as specified in the claims, the rejection does not establish a *prima facie* case of obviousness. The claimed combination provides results which are not achieved by teachings of the prior art. Accordingly, applicant requested the rejection be removed in view of the claims is now presented and reviewed the discussion above.

Claims 2-16, and 21 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Haczynski et al. (US Pat No. 5,866,874) in view of Tsutsumi (EP 1358973 A1).

Applicant requests reconsideration of this rejection for the same reasons as stated above with regard to combining the teachings of Haczynski et al. And Tsutsumi. Further, this rejection is not clear as claim 2 depends from claim 1 and claim 1 was rejected based on the three references as discussed above. In any event, the references fail to teach and fail to

suggest the features claimed. Accordingly, reconsideration of all rejections is requested. It is requested that the claims be allowed as now presented.

Further and favorable action on the merits is requested.

Respectfully submitted
for Applicant,



By: _____

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Attachment: Replacement Sheet of Drawings

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SHOULD ANY OTHER FEE BE REQUIRED, THE PATENT AND TRADEMARK OFFICE IS HEREBY REQUESTED TO CHARGE SUCH FEE TO OUR DEPOSIT ACCOUNT 13-0410.

DATED: February 3, 2011
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